EXHIBIT 10

IPR2021-01041

Rosenberg, Ph.D., Craig   July 7, 2022

1

UNITED STATES PATENT AND TRADEMARK OFFICE

_____

BEFORE THE PATENT TRIAL AND APPEAL BOARD

_____

GOOGLE LLC,

Petitioner,

v.

NEONODE SMARTPHONE LLC,

Patent Owner.

_____

Case No. IPR2021-01041

US Patent No. 8,095,879

REMOTE DEPOSITION OF CRAIG ROSENBERG, PhD

Thursday, July 7, 2022

12:11 p.m. EDT

REPORTED BY: Deanna Dean, RDR, CRR

IPR2021-01041

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2                              Thursday, July 7, 2022
3                              12:11 p.m. EDT
4
5
6          Deposition of CRAIG ROSENBERG, PhD, held
7     via Zoom videoconference, before Deanna J. Dean,
8     a Registered Professional Reporter, Registered
9     Diplomate Reporter, Certified Realtime Reporter,
10    and licensed court reporter of the state of New
11    Hampshire.
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GOOGLE EXHIBIT 1031
GOOGLE v. NEONODE
IPR2021-01041

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 1               A P P E A R A N C E S

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1            ATTORNEY RODKEY:  Okay.

2       A.   Okay.  It's downloading now.

3            Okay.  I have Exhibit 2019 open on my

4   screen.

5       Q.   Okay.  Would you please take a moment to

6   look through Exhibit 2019 and just confirm that

7   it's the second declaration that you submitted in

8   this proceeding.

9       A.   Yes, it appears to be so.

10      Q.   And just for formality, if you'll flip to

11  the very last page, which would be page 71, is that

12  your signature there?

13      A.   Yes, it is.

14      Q.   If you would, please, could you turn to

15  paragraph 71 of Exhibit 2019.

16      A.   Okay, I'm looking at paragraph 71.

17      Q.   Okay.  And if you look in paragraph 71, in

18  the fourth line, about halfway across, there's a

19  sentence that says "While 'gliding' is a particular

20  type of 'movement,' it does not follow that any

21  'movement' is 'gliding,' particularly in the

22  context of touch-based user interfaces."

23           Did I read that right?

24      A.   You did.

25      Q.   What do you mean by that statement?
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 1        A.    Just simply that there are various forms
 2   of movement, and gliding is one form of movement.
 3              In the next sentence, I sort of described
 4   the subset/superset relationship, using the analogy
 5   of a chicken is a type of bird but not every bird
 6   is a chicken.  Gliding is a type of movement,
 7   flicking is a type of movement, but they are not
 8   the same.
 9        Q.    Would you consider them distinct types of
10   movement?
11              ATTORNEY HENDIFAR:  Objection.  Form.
12        A.    I would.  Distinct from each other, yes.
13        Q.    Are there other types of movements that
14   can be used in touch-based user interfaces?
15        A.    I would say so, yes.
16        Q.    Are there a lot of different types of
17   movements that can be used?
18              ATTORNEY HENDIFAR:  Objection.  Form,
19      scope, and relevance.
20        A.    I guess I would need to think about all
21   the different kinds, but, I mean, tap or touch
22   would be two other kinds of movement.
23              So I think there's -- there's a variety of
24   different kinds.  Whether one would consider it to
25   be a lot or just, you know, more than three or
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 1   four, there are a number of different kinds of

 2   movements, and computer programmers and designers

 3   can classify those movements and gestures to enact

 4   different outcomes associated with the computer

 5   program, to recognize different movements and

 6   gestures.

 7       Q.    So you mentioned gestures.  Other than

 8   flick and glide, what other kind of gestures can be

 9   used in touch-based user interfaces?

10            ATTORNEY HENDIFAR:  Objection.  Form,

11      scope, relevance.

12       A.    Well, I just mentioned clicking, which

13   could be just a tap, so down and up; or it could be

14   a touch, which is just down; or it could be -- I'm

15   just -- this is -- by no means is this fully

16   exhaustive, this list.  This is just me giving some

17   examples.

18            There's long press.  There's harder

19   presses, if the input can detect the amount of

20   pressure.  There's drag-and-drop movements.  There

21   can be a variety of different kinds of movements.

22       Q.    So if I'm understanding you right, then,

23   movement is like a -- sorry.  I'm going to go back

24   to basic science class here with, you know,

25   kingdom, phylum, genus, species, all like that.
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1   Movement is like a genus; it's like a

2   superset. And then gliding or flicking would be a

3   species; it's a subset of that genus of movement.

4   Right?

5   ATTORNEY HENDIFAR: Objection. Form.

6   **A.   Yes. Like I testified earlier, movement**

7   **is a superset and gliding is a subset. I agree**

8   **with that.**

9   Q.   And for gliding and flicking, if the user

10   is using a pen, which I believe is an example that

11   you have in your declaration, do both of those

12   movements involve dragging the pen across the

13   screen for some distance?

14   ATTORNEY HENDIFAR: Objection. Form.

15   **A.   Well, I wouldn't characterize it as**

16   **dragging. I wouldn't say that, because I would --**

17   **it's important to distinguish between a flick and a**

18   **drag-and-drop, or even a swipe and a drag-and-drop.**

19   **But there -- I would really need to think**

20   **about this and analyze this carefully, and I do**

21   **talk about in my declaration the differences**

22   **between flick and swipe.**

23   **So if your question -- is your question**

24   **does a flick require at least some minimal distance**

25   **on the screen? Is that -- I want to be responsive**

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1   to your question.

2   Q.   Sure. So let me break it down a little

3   bit.

4   So for a flick gesture, does the object

5   performing the flick gesture need to -- and I'll

6   use a different word -- need to contact the screen

7   for some distance before it's lifted off?

8   ATTORNEY HENDIFAR: Objection. Form.

9   A.   Well, I haven't fully analyzed this. This

10   isn't something that the petitioner's expert, that

11   I'm aware of, had opinions on that, that I needed

12   to respond to.

13   But if -- as a programmer, I -- as a

14   programmer, if it didn't travel any distance at

15   all, then that would be equivalent to a touch or a

16   tap. If it went down on one pixel and went up on

17   the same pixel, or just stayed down on the one

18   pixel and there was no lateral, you know, vertical

19   or horizontal movement at all, I would need more

20   time analyzing it.

21   But my initial thought is I don't believe

22   that that could be detected as a flick. However,

23   if it traveled just one additional pixel in any

24   direction, then the computer could recognize that

25   as a flick.

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1            So I guess your question said some

2    distance.  I would think -- and, again, this is a

3    very preliminary analysis here on the fly,

4    unrelated to what I understand is what Dr. Wobbrock

5    has opined on -- that there would likely need to be

6    at least one pixel worth of movement, at a minimum.

7        Q.   Didn't you testify in your declaration

8    that gliding is a "relatively slower, smoother, and

9    longer motion, while flick is a sharper, faster and

10   shorter movement"?

11       A.   I believe that's correct.  If you want to

12   point me to the paragraph where I said that, I can

13   read from it.  But that sounds accurate.

14       Q.   Sure.  And I'll point you to the paragraph

15   just so you can confirm.  It's paragraph 84.  It's

16   the last sentence of that paragraph.

17       A.   Yes.  Yes, I've read that.

18       Q.   So you are drawing some distinction based

19   on the length of the movements.  Correct?

20            ATTORNEY HENDIFAR:  Objection.  Form.

21       A.   That is correct.

22       Q.   What is the maximum length that a flick

23   can be?

24            ATTORNEY HENDIFAR:  Objection.  Form.

25       Scope and relevance.
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 1    did you draw the boundary between a flick and a
 2    glide?
 3              ATTORNEY HENDIFAR:  Objection.  Form,
 4        scope, and relevance.
 5        A.    I believe this is the fourth time you've
 6    asked the same question where you're trying to
 7    elicit a certain number, at what length, you know,
 8    what's the distance.  And I'm politely saying for
 9    the fourth time it's not my role to on the fly to
10    do -- I haven't done that analysis because it
11    wasn't required of me.  What was required of me was
12    to be responsive to Dr. Wobbrock and to apply the
13    plain -- analysis of plain and ordinary, which is
14    what I did.
15        Q.    So, to be clear, although you said you did
16    an analysis of the plain and ordinary meaning of
17    flick and glide, used the meanings of flick and
18    glide to distinguish a prior art reference from the
19    '879 patent in your opinion, you cannot offer the
20    delineation between flick and glide in terms of
21    distance moved.  Correct?
22        A.    I guess that's one way to put it, but I
23    wouldn't put it that way.  The way I would put it
24    is the way that I've said a few times now, which is
25    I have been responsive to Dr. Wobbrock and
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1    Dr. Wobbrock did not offer any opinions himself on
2    the distance between flick and glide.  I would have
3    been happy to read his opinion, go through his
4    analysis, point out where I agree with
5    Dr. Wobbrock, where I might disagree with
6    Dr. Wobbrock.
7            But that wasn't done.  My understanding is
8    just to do an analysis of what one of skill in the
9    art, a POSITA, would understand when reading the
10   terms "flick" or "glide" or "swipe."  And I've done
11   that analysis in the various paragraphs that I
12   pointed you to.  I think it was 40, 77, and 84, at
13   least in those -- those paragraphs.  So I don't
14   have a number for you how many meters per second,
15   how many pixels per second.
16           And, by the way, that one number in my
17   analysis would also depend.  It would probably
18   depend on many different things.  It would depend
19   on the screen size.  It would depend on the
20   resolution of the screen.  It would probably depend
21   on the input device, whether you're using a stylus,
22   whether you're using a light pen, whether you're
23   using a finger.  It would probably depend on the
24   task.
25           So it's -- the question, I think, is -- I
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1   don't want to say your question is flawed because I

2   certainly don't want to be disrespectful. But I

3   think that one number doesn't suffice to answer

4   that question what the difference between a flick

5   and a glide. It would really depend on so many

6   attributes of both systems anyway.

7   Q.   So in some cases, depending on different

8   systems, what's considered in one system might be

9   considered a glide in another, depending on all the

10 factors that you just listed?

11   ATTORNEY HENDIFAR: Objection. Form,

12   scope, and relevance.

13   A.   I can't answer that. I think really the

14 difference between a flick and a glide are -- are

15 best -- my opinions related to that, the plain and

16 ordinary meaning, which is what controls -- to my

17 understanding, "control" might not be the best,

18 accurate word -- but what's appropriate in this

19 case is on paragraphs 77, 40, and -- I'm sorry --

20 40, 77, and 84, with the dictionary definitions

21 being on 77. So, there, you can see -- see the

22 differences.

23   I also have a number of graphics on

24 page 35 and 36 of my report. A POSITA would

25 understand the difference between a flick and a

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 1    of the original claims as filed?
 2            ATTORNEY HENDIFAR:  Objection.  Form.
 3       A.   Again, I'd need to review the prosecution
 4    history, but I believe the -- at a high level, the
 5    term was "movement" or "move," and that that was
 6    narrowed to "glide" or "gliding away," after
 7    discussions with the applicant, after reviewing the
 8    video, to properly distinguish between this
 9    superset, which is movement, to a subset, a more
10    narrowed claim, which is gliding or gliding away.
11            I do talk about that in my declaration if
12    you'd like me to find the paragraph numbers.
13       Q.   No, that's fine.  I just want your general
14    understanding for now.
15            To be clear, the '879 patent doesn't
16    describe the speed of movement of the thumb or the
17    finger moving across the screen when activating the
18    icons at the bottom.  Correct?
19       A.   Well, there are four references in the
20    '879 that talk about the speed of movement, or the
21    speed of the movement.  If you want me to point
22    those out, basically the bottom of column 2 talks
23    about speed of movement.  And --
24       Q.   So let's go in order here.
25            So the speed of movement in column 2 is
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1    referring to the marking on a list.  Correct?
2         A.    According to the present invention,
3    navigation in the list is performed by moving the
4    object in a direction toward the top of the list or
5    toward the bottom of the list.  This will cause the
6    marking to move in the same direction.  The speed
7    of movement of the marking is lower than the speed
8    of movement of the object with the purpose of
9    making navigation easier.  That's correct, yes.
10        Q.    So that's not the activation of the icons
11   at the bottom of the screen shown in Figure 1?
12        A.    Yes, I agree with that.
13        Q.    Okay.  And you said speed was somewhere
14   else?
15        A.    No.  Column 5, around lines 33, and
16   they're talking about the same thing as we just
17   discussed previously there.
18             So the fact that the '879 also didn't
19   describe a single number, if you will,
20   corresponding to -- well, I mean, I don't want to
21   anticipate your question, so I'll just let you
22   speak.  I think it sounded like to me you were
23   trying to ask if the '879 had anything to
24   distinguish between a flick or a swipe.  But like I
25   said, the '879 patent is all about swipe.  It's all
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1   about moving away.
2       Q.   Doesn't a flick also move away from a
3   touched point?
4       A.   Well, it's gliding away.  Let me be more
5   precise.  Gliding away.
6            We spoke about how movement is a superset,
7   and swipe and glide are subsets, and even the
8   patent office agrees that movement was too general.
9   So it's -- it was narrowed to be a gliding away.
10           And so, yes, gliding is moving, and, yes,
11  flicking is moving, but they are distinct from one
12  another and moving is too broad.
13      Q.   And flicking is moving away from a touched
14  point.  Correct?
15      A.   As I just said, flick is a kind of
16  movement and swipe is a kind of movement, but both
17  of those, the patent office thought were too broad
18  and unpatentable in that previous form of the
19  claim.  So the claim was narrowed to be more
20  specific to gliding.
21           Yes, basically, to use the analogy, a
22  glide is a bird and a flick is a bird -- I'm sorry.
23  A glide is a move -- to get my analogy straight
24  here, chicken and bird.  Chicken is the subset.
25           So you've got a chicken and you have a
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1   understanding of what a function is.

2   Q.   So what definition of "function" did you

3   apply when you wrote your declaration?

4   ATTORNEY HENDIFAR: Objection. Form,

5   scope, and relevance.

6   A.   I think -- I don't intend, unless you want

7   me to -- which I would think you would not want me

8   to -- to go through each of the 77 occurrences.

9   But just to start at the first couple of

10 them, in the abstract of the '879 patent, it says

11 the menu area 2 is adopted to present a

12 representation of a first item 21 and a second item

13 22 and a third predefined function.

14   And we -- you can see -- I guess, let me

15 go to the most appropriate figure for you.

16   In Figure 1, we see elements 21, 22, and

17 23, and there's three different icons that bring up

18 three different user interfaces.

19   So at a high level, the function in '879

20 is bringing forward for the user the appropriate

21 user interface associated with the icon that was --

22 that was swiped on, the icon that was glided away

23 from, to use the term that's in the claim.

24   Q.   So the definition of "function" that you

25 applied was bringing forth the appropriate user

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 1    interface associated with the icon that was glided

 2    away from?

 3              ATTORNEY HENDIFAR:  Objection.  Form,

 4       scope, relevance.

 5       A.    Well, in general, like I said, I also --

 6    by plain and ordinary meaning, "function" can be

 7    broad function and computer programming could be

 8    like a method.  A function is a method.  So there's

 9    data and there's functions.  It's an operation.

10    It's an algorithm.  It can be called.  It can have

11    arguments.

12              So if one were to look at the code to

13    bring up the user interface associated with a given

14    icon by gliding away from it, one would find a

15    function call or a function, oftentimes with

16    arguments.  So it can be broader than the narrow --

17    what's described in the abstract.

18              I think the abstract is -- is important.

19    The abstract of '879 is -- is important and

20    relevant because they talk about that function of

21    displaying the appropriate interface.  But one of

22    skill in the art wouldn't say that a function --

23    you know, dialing a phone number is a function in

24    Robertson.  Displaying a phone number is a

25    different function in Robertson.  So there are
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 1   functions in Robertson, too.
 2            Function is broader than just bringing up
 3   a user interface, but that's how it's used at least
 4   in part of the '879 patent.
 5       Q.   So can a representation, then, in the '879
 6   patent have different functions associated with it?
 7            ATTORNEY HENDIFAR:  Objection.  Form,
 8       scope, and relevance.
 9       A.   Say -- please say the question one more
10   time.
11       Q.   Yeah.
12            Can a representation in the '879 patent
13   have different functions, or have more than one
14   function associated with it?
15       A.   Yeah.  I believe you asked that --
16            ATTORNEY HENDIFAR:  Objection.
17            THE WITNESS:  I'm sorry, Parham.  Go ahead
18       with any objection.
19            ATTORNEY HENDIFAR:  Objection.  Form,
20       scope, and relevance.
21       A.   I believe I answered that question.  I'm
22   not sure if it was just before the break or just
23   after the break.  But that's not something that
24   Dr. Wobbrock opined on.  So my role, being
25   responsive to Dr. Wobbrock, I have not considered
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 1    that.  Yeah, I think that was the same question you

 2    asked earlier.

 3        Q.    All right.  I'm still -- you gave kind of

 4    a long rambling answer, so I'm still trying to

 5    understand if you can do it more succinctly.

 6            What is your general understanding of what

 7    a function is?

 8            ATTORNEY HENDIFAR:  Objection.  Scope,

 9        relevance, and form.

10        A.    In general or in the context of this

11    patent?

12        Q.    Let's start with in general.

13        A.    In general and in software engineering, it

14    would be a method, a procedure.  Sometimes it takes

15    the form of an algorithm.  It usually invokes some

16    action.  Sometimes it's visible to the user.

17    Sometimes it may not be visible to the user.

18            Just in general, functions are one of the

19    basic building blocks of computer programming.  You

20    have data and you have functions, and functions can

21    take data in terms of arguments.  They can

22    manipulate data.  They can return data.  Functions

23    can call other functions.  Functions can even have

24    functions as their argument.

25            So it's a -- it's very broad in terms of
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 1    computer programming and what you can do with

 2    functions, and it's a big part of programming, both

 3    procedural as well as object-oriented programming.

 4         Q.    Speaking of objects, what's a first-class

 5    object in a user interface?

 6              ATTORNEY HENDIFAR:  Objection.  Form.

 7         A.    Well, in general, or in -- as Robertson

 8    defines it?

 9         Q.    In general.

10         A.    Okay.  So, in general, the first-class

11    object can appear in expressions.  They can be

12    assigned to variables.  It can be used as arguments

13    in functions.  Functions can return them.  They can

14    encapsulate data or behaviors.  It's kind of like a

15    standalone computer class -- I don't know how much

16    you know about computer programming; I assume

17    some -- that you can think of a class that may have

18    attributes associated in the class, and you can

19    pass that class to another function.  You can save

20    it to disk and return it.  It's -- it's a lot more

21    portable.  You can assign it to variables.  It just

22    gives the programmer much more flexibility than

23    something that's more temporary and not a

24    first-class object.

25              In Robertson, they equate a first-class
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 1                   C E R T I F I C A T E

 2

 3        I, Deanna J. Dean, a New Hampshire Licensed

 4   Court Reporter, Registered Diplomate Reporter, and

 5   Certified Realtime Reporter, do hereby certify that

 6   the foregoing, to the best of my knowledge, skill,

 7   and ability, is a true and accurate transcript of

 8   my computer-aided electronic stenographic notes of

 9   the deposition of CRAIG ROSENBERG, PhD, who was

10   duly sworn, taken at the place and under the

11   circumstances present on the date hereinbefore set

12   forth.

13        I further certify that present on behalf

14   of the Petitioner, Attorney KEVIN D. RODKEY, ESQ.

15   and YI YU, PHD, ESQ. of FINNEGAN, HENDERSON, FARABOW,

16   GARRETT & DUNNER LLP, and on behalf of the Patent

17   Owner: NEONODE SMARTPHONE LLC, was PARHAM HENDIFAR, ESQ.

18   of LOWENSTEIN & WEATHERWAX LLP.

19        I further certify that I am neither attorney

20   or counsel for, nor related to or employed by any
     of the parties to the action in which this
21   deposition was taken, and further that I am not a
     relative or employee of any attorney or counsel
22   employed in this case, nor am I financially
     interested in this action.
23   _____
               Deanna J. Dean, RDR, CRR
24             NH LCR No. 87 (RSA 310-A)

25        Signed this 14th day of July, 2022
```
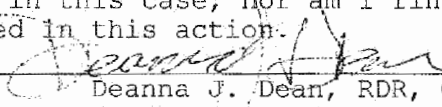
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